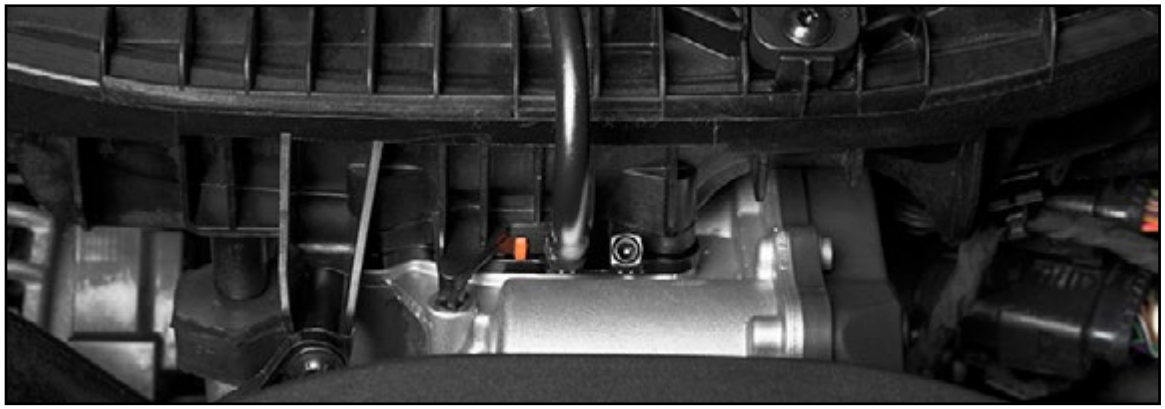
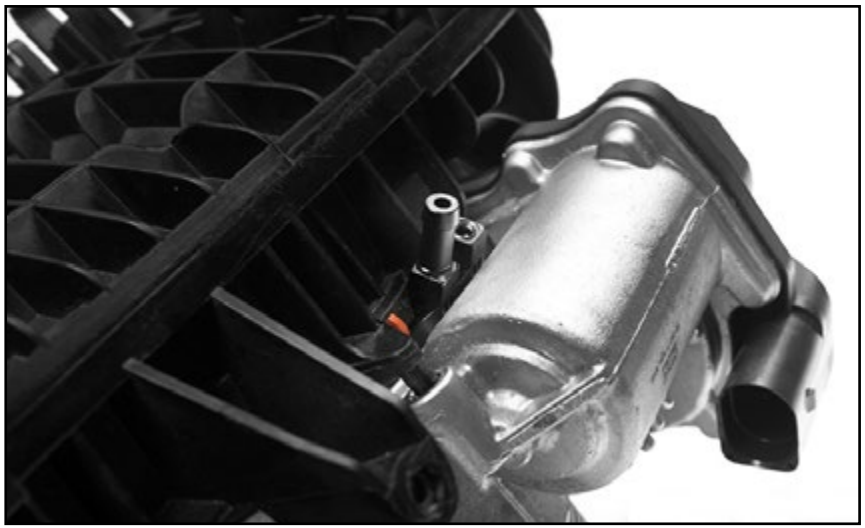
# Volkswagen 1.8T/2.0T Gen3
# Throttle Body Boost Tap Installation



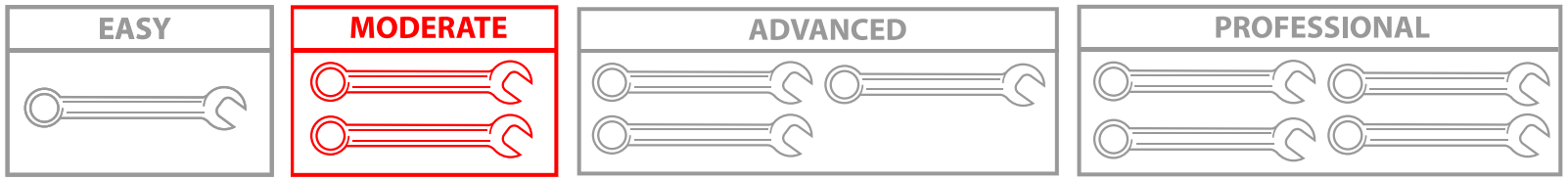


Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

# INTRODUCTION

## The Project:

Today we'll be installing our Throttle Body Boost Tap into our 2.0T Gen3 equipped Volkswagen MK7 GTI. This boost tap setup allows us to supply vacuum/boost to up to two (2) different components such as boost gauges, vacuum operated valves, etc.




BASIC SKILLS REQUIRED

**SOME EXPERIENCE RECOMMENDED**

ADVANCED SKILLS & EXPERIENCE REQUIRED

PROFESSIONAL SKILLS & SPECIALTY TOOLS REQUIRED

Some experience is recommended for this job, but we're going to lay it out for you step by step, so even if you don't have much "wrench" time under your belt, these instructions will make it easy for you. We'll have to remove the intake manifold for this install, which is definitely the most difficult part of the job. A basic set of tools is required, but don't forget to check out the tool list on Page 5, and make sure you have everything you need on hand before you begin. If you have any previous experience with a similar repair or install, you could probably knock this out in an afternoon, but if have less experience, you should plan an entire day for the project just in case.

A couple of final points - you won't need to lift the car off of the wheels at all for this install, everything you need is accessible from the top. Reading these instructions completely before you begin will help you plan out the job and manage your time better. Thanks for looking to ECS Tuning for all of your performance and repair needs, we appreciate your business!

# PROJECT OVERVIEW

We're going to be working under the hood for this entire project. First we'll remove airbox and inlet scoop, then we'll tackle the trickiest part of the job; removing the intake manifold. Once we get that out of the way, we'll remove the throttle body, inspect the throttle body seal for any signs of wear or damage, and install the boost tap. With the boost tap installed we'll reinstall the intake manifold, and then we'll reassemble the remainder of the parts we had to remove. Finally, we'll show you the best way to run a vacuum line to your new boost tap, and you'll be back on the road before you know it! Make sure you take your time and read these directions carefully, there are a lot of components to remove during this job and things will go much smoother if you familiarize yourself with the job before starting it.

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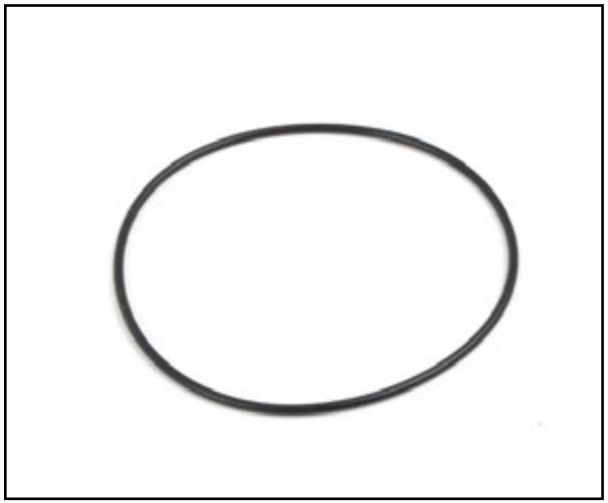
# KIT CONTENTS

Throttle Body Boost Tap

Boost Tap Nipple (2)

Boost Tap Block-Off Screw (2)



O-Ring Seal

Thread Locking Compound

Silicone Packet

# REQUIRED TOOLS

Note: The tools required for each step will be listed by the step number throughout these instructions.

Below is a list of the tools we used to install the Volkswagen 1.8T/2.0T Gen3 Throttle Body Boost Tap. Additional tools may be required for any issues that arise during installation such as rust, corrosion, or broken and stripped fasteners. Tools with a part number listed are available on our website - click on their ES# link to view them.

- 1/4" Drive Ratchet ..... ES#2823235
- 1/4" Drive Sockets: 10mm, 13mm ..... ES#2823235
- 1/4" Drive Extensions ..... ES#2823235
- 3/8" Drive Ratchet ..... ES#2765902
- 3/8" Drive Torque Wrench ..... ES#2221245
- 3/8" Drive Sockets: 10mm, 13mm ..... ES#2763772
- 3/8" Drive Extensions ..... ES#2804822
- Torx Screwdrivers: T25, T30 ..... ES#11417
- Torx Sockets: T20, T25 ..... ES#11418
- External Torx Sockets: E8, E10 ..... ES#2777804
- Allen Wrench: 3mm
- Combination Wrench: 17mm ..... ES#2765907
- Flat Blade Screwdriver ..... ES#2225921
- M10 Triple Square Socket ..... ES#2093758
- 17mm Combination Wrench ..... ES#2765907
- Telescoping Magnet ..... ES#2825695
- Telescoping Grabbing Tool

**Specialty Tool Requirements:** The following scan tool is not considered part of a standard tool set, but it is required if you wish to perform a "Throttle Body Adaptation" after this install is complete (Throttle Body Adaptation is NOT required in MOST cases).

- Schwaben Professional VAG Scan Tool ..... ES#2827082

# SHOP SUPPLIES AND MATERIALS

Below is a list of standard shop supplies which we like to keep on hand during all repairs and services. Additional supplies may be required for any issues that arise during installation. Shop supplies with a "Click Here" link are available on our website - click on their link to view them.

- Hand Cleaner/Degreaser ..... Click Here
- Latex Gloves - For those especially dirty, oily jobs ..... Click Here
- Mechanics Work Gloves ..... Click Here
- Oil Drain Pan - For catching fluid as it is draining from the vehicle ..... Click Here
- Pig Mats - For protecting your garage floor and work area from spills and stains ..... Click Here
- Medium and High Strength Loctite Thread lock compound - To prevent bolts from backing out ..... Click Here
- Anti-Seize Compound - To prevent seizing, galling, and corrosion of fasteners ..... Click Here
- Micro Fiber Towels - For cleaning the paint on your car ..... Click Here
- Spray detailer - For rapid cleaning of anything that comes into contact with your paint such as brake fluid ..... Click Here
- Electrical Tape - For wrapping wiring harnesses or temporary securing of small components
- Aerosol Brake/Parts Cleaner - For cleaning and degreasing parts
- Shop Rags - For wiping hands, tools, and parts
- Penetrating Oil - For helping to free rusted or stuck bolts and nuts
- Mechanics Wire - For securing components out of the way
- Plastic Wire Ties/Zip Ties - For routing and securing wiring harnesses or vacuum hoses
- Paint Marker - For marking installation positions or bolts during a torquing sequence

# INSTALLATION NOTES

- **RH** refers to the passenger side of the vehicle.
- **LH** refers to the driver side of the vehicle.
- Always use the proper torque specifications.
- If applicable to this installation, torque specifications will be listed throughout the document and at the end as well.
- Please read all of these instructions and familiarize yourself with the complete process **BEFORE** you begin.

# GENERAL PREPARATION AND SAFETY INFORMATION

ECS Tuning cares about your health and safety. Please read the following safety information. This information pertains to automotive service in general, and while it may not pertain to every job you do, please remember and share these important safety tips.

- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- **ALWAYS** wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- If using an automotive lift, be sure and utilize the factory specified lift points. Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- When lifting a vehicle using a jack, always utilize the factory specified lift points. Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear. **ALWAYS** support the vehicle with jack stands.
- Always read and follow all safety information and warnings for the equipment you are using.

**Never get underneath a vehicle that is supported only by a jack. Always make sure that the vehicle is securely supported on jack stands.**

# REMOVING THE INTAKE MANIFOLD

**Step 1:** 10mm Socket, Ratchet

Lift the battery cover top in order to gain access to the battery terminals. Remove the negative battery terminal, then separate the battery terminal from the battery post with the battery cover as shown on the right.

**CAUTION**

To reduce the risk of fire, explosion, or personal injury, **ALWAYS** disconnect the battery by removing the negative battery terminal.

**CAUTION**

DO NOT skip this step, we will be disconnecting the fuel line from the engine during this installation. If the battery is not disconnected the fuel pump will prime if a door is opened and cause fuel to spray uncontrollably.

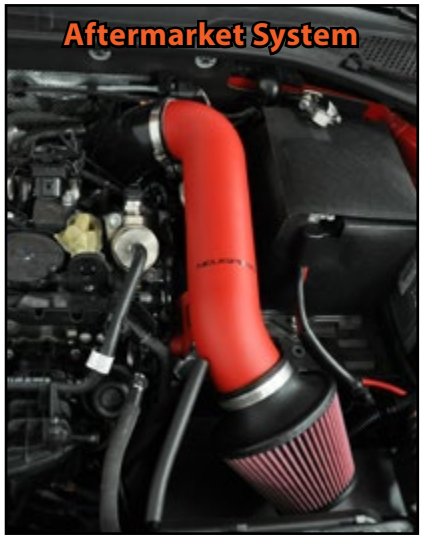
**Step 2:**

Remove the engine cover by gently lifting upwards on each corner, one at a time.

# REMOVING THE INTAKE MANIFOLD

## Step 3:

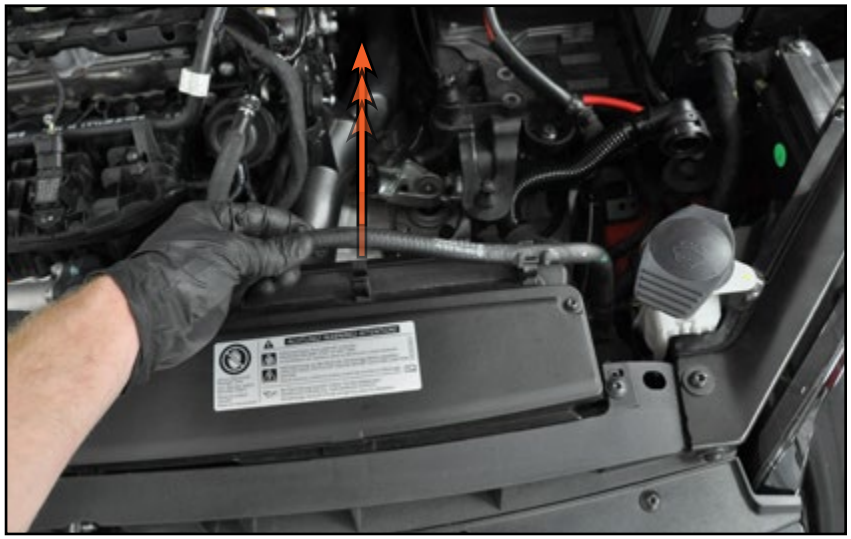
Remove the intake air box and intake pipe from the vehicle (this step applies to both stock and aftermarket intake systems).





## Step 4:

Gently lift the coolant hose upwards to remove it from the air inlet scoop as shown in the photo.



**NOTE**

For our installation we removed this charge pipe from the vehicle in order to take more detailed photos, but this is not a necessary step as everything is accessible with the charge pipe in place.

# REMOVING THE INTAKE MANIFOLD

**Step 5:** T25 Torx Socket, Ratchet

Loosen and remove the two screws which secure the air inlet scoop to the core support.


**Step 6:**

Gently pull the air inlet scoop rearward and down away from the core support until you hear a “click” indicating that it has released from the core support, then remove the scoop from the vehicle.

# REMOVING THE INTAKE MANIFOLD

**Step 7:** Flat Blade Screwdriver

Gently pry downwards on the throttle body wiring harness clip in order to remove it from the intake manifold.

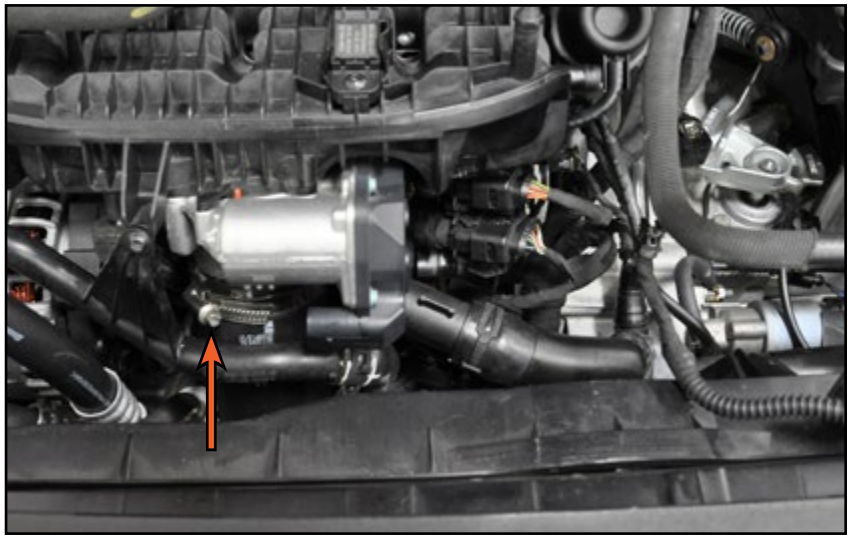
**Step 8:**

Disconnect the throttle body electrical connector by pushing the connector towards the throttle body, squeezing the release tab, then pulling the connector off of the throttle body.

# REMOVING THE INTAKE MANIFOLD

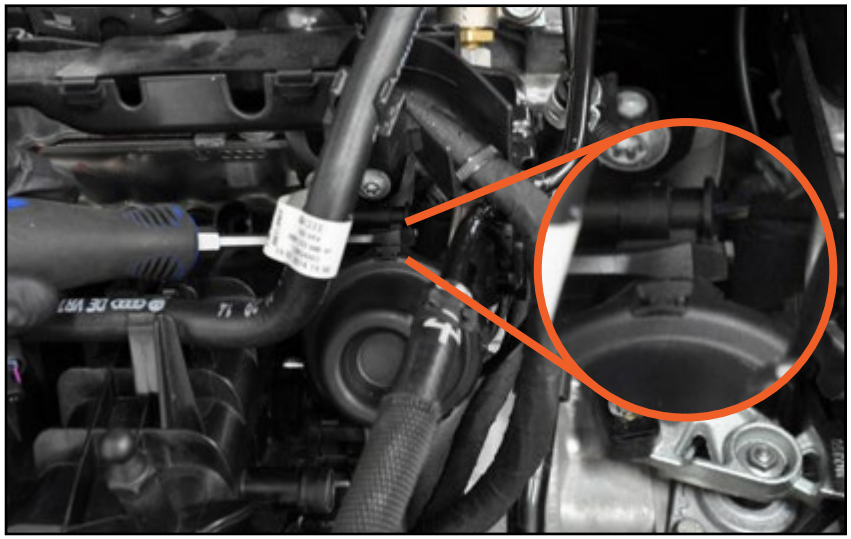
**Step 9:** Flat Blade Screwdriver

Loosen the hose clamp which secures the throttle body coupler to the throttle body.



**Step 10:** Flat Blade Screwdriver

Release the lock on the connector which is located on the LH side of the engine near the fuel pump, then squeeze the release tab by hand and pull the connector off.



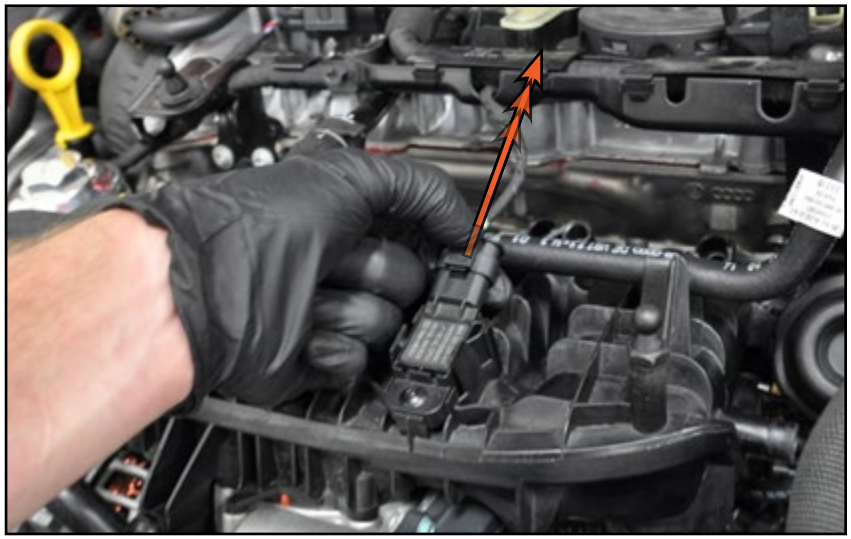
# REMOVING THE INTAKE MANIFOLD

**Step 11:** Flat Blade Screwdriver

Release the lock on the intake manifold runner flap connector as shown in the photo, then squeeze the release tab by hand and pull the connector off.

**Step 12:**

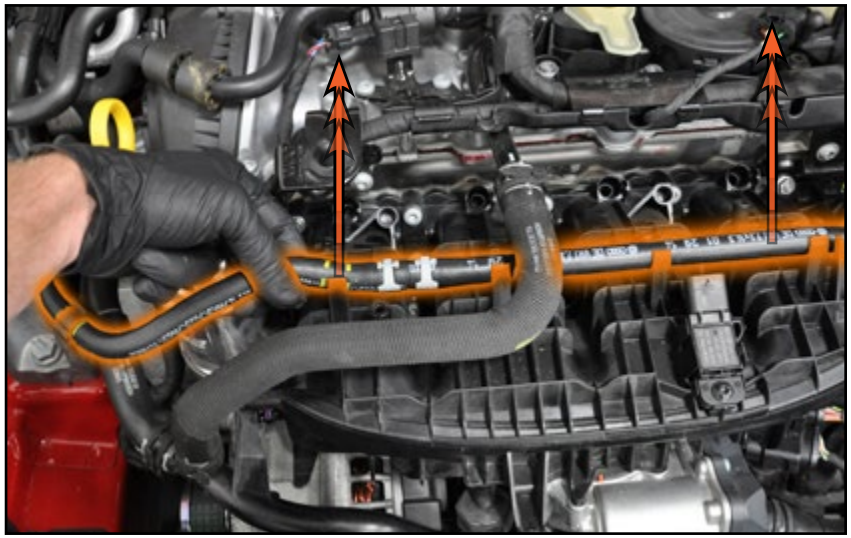
Disconnect the MAP sensor electrical connector by pushing the connector towards the sensor, squeezing the release tab, then pulling the connector off of the sensor.



# REMOVING THE INTAKE MANIFOLD

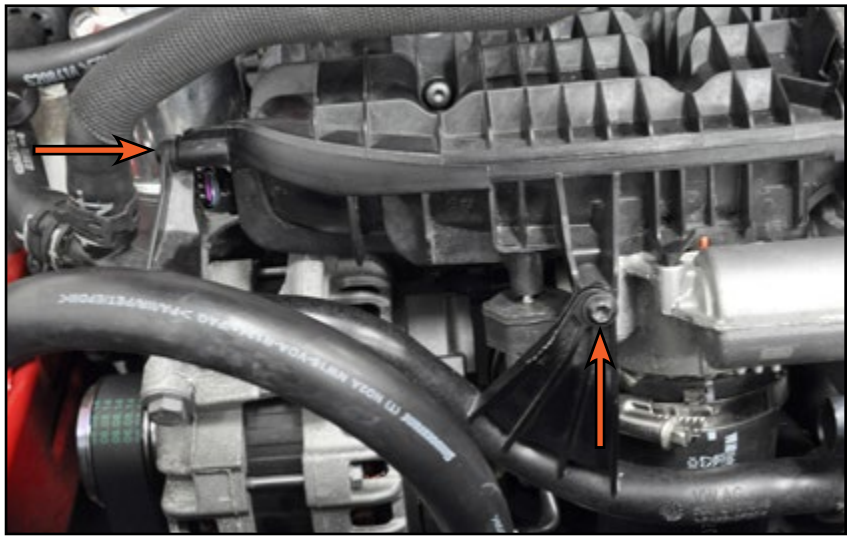
**Step 13:**

Gently lift upwards on the coolant hose which is located on top of the intake manifold (highlighted in the photo) in order to detach it from the manifold.



**Step 14:** T30 Torx Socket, Ratchet

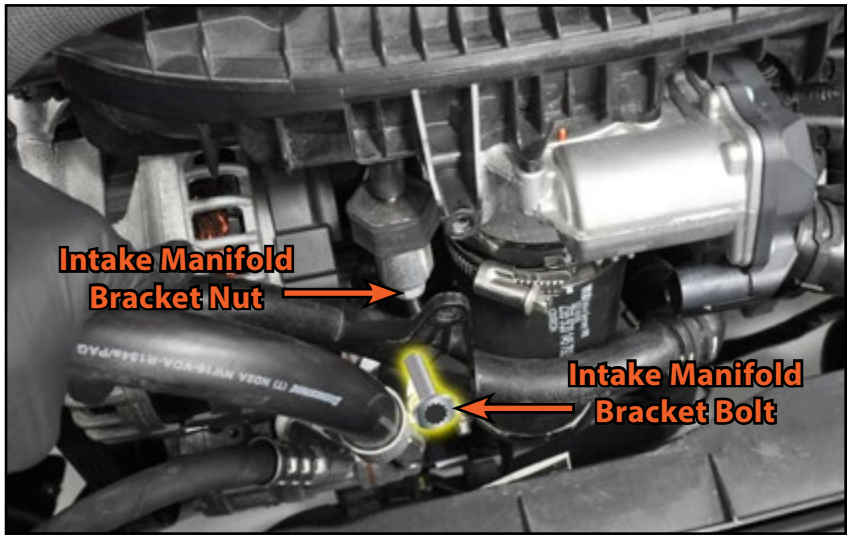
Loosen and remove the two screws which secure the coolant pipe to the intake manifold.



# REMOVING THE INTAKE MANIFOLD

**Step 15:** M10 Triple Square Socket, 13mm Socket, Ratchet

Loosen and remove the nut and bolt which secure the intake manifold bracket to the engine and manifold, then push the bracket downwards to pull it free from the stud, but do not completely remove the bracket as there is a wiring harness which is secured to it.




**NOTE**

The bolt is shown in the photo as an illustration because it is impossible to get any photos of it. This is due in part to its location and the components which surround it.

**Step 16:**

Loosen the rubber bushing as shown in the photo.

# REMOVING THE INTAKE MANIFOLD

## Step 17:

Gently guide the bushing out of the intake manifold bracket and remove it from the vehicle.

## Step 18:

Disconnect the four (4) electrical connectors located underneath the intake manifold (highlighted in the photo) by pushing the connector inwards, squeezing the release tab, then pulling the connector outwards and off.

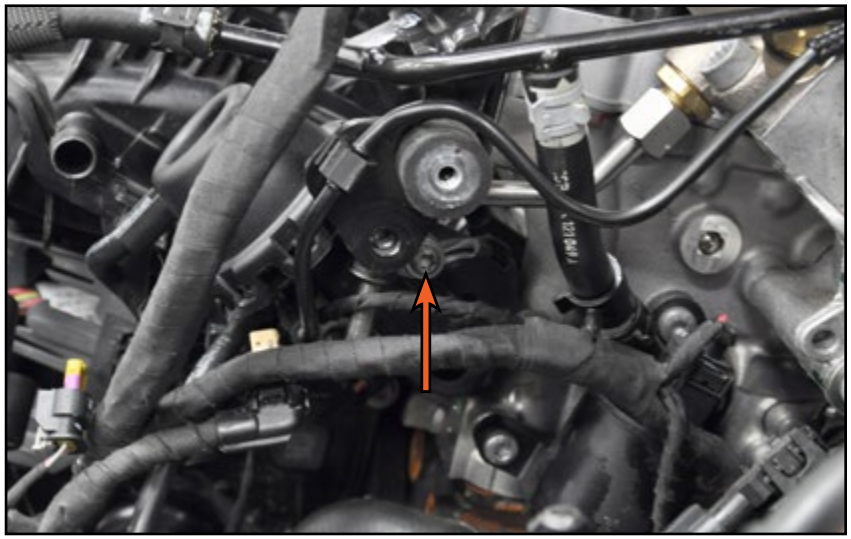
# REMOVING THE INTAKE MANIFOLD

## Step 19:

Slide the two large connectors by hand from right to left in order to slide them out of their brackets.

## Step 20: T30 Torx Socket, Ratchet

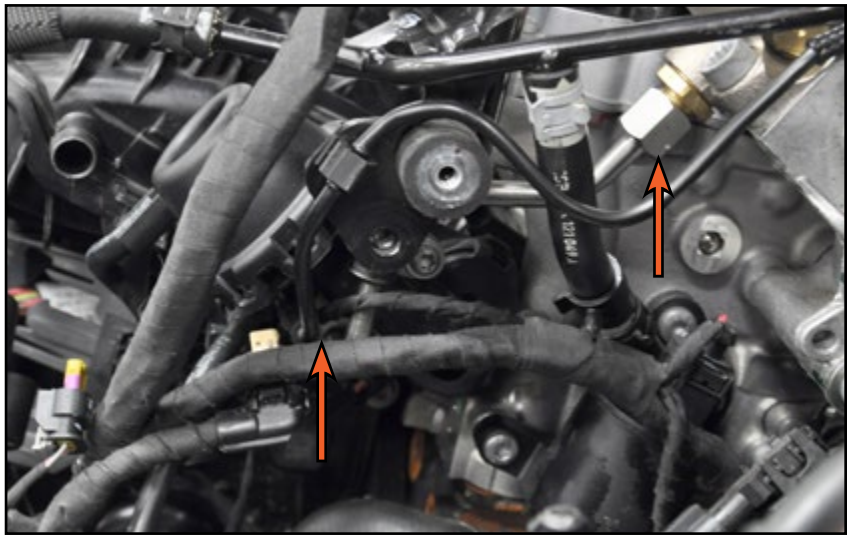
Loosen and remove the bolt which secures the fuel line bracket to the engine.



# REMOVING THE INTAKE MANIFOLD

## Step 21: 17mm Open End Wrench

Stuff a few shop towels underneath and around the fuel line to absorb any fuel which may spray/spill, then carefully loosen the fuel line nuts from the fuel pump and the fuel rail. Once the nuts have been loosened you can remove the fuel line from the vehicle.

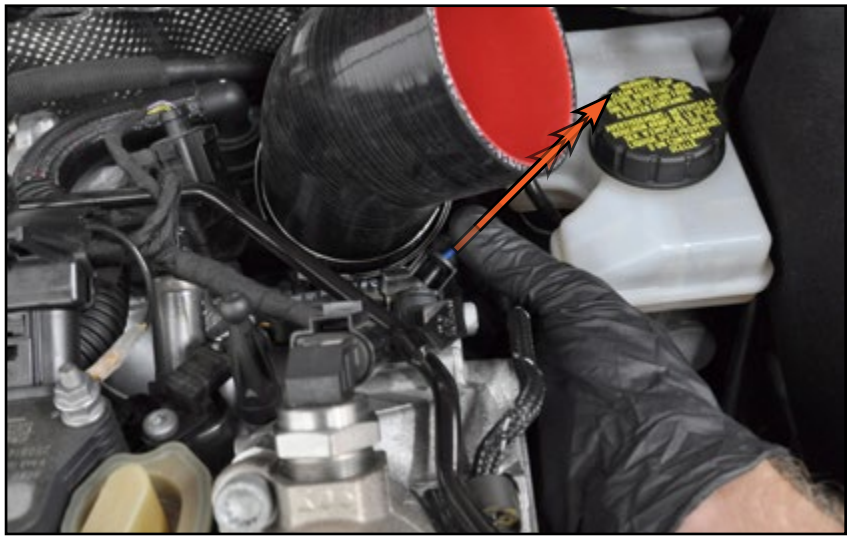


**CAUTION**

It is absolutely **CRITICAL** that you ensure that the battery has been disconnected before you attempt to loosen this fuel line. If the battery is still connected the fuel pump may cycle if a door is opened, causing fuel to spray uncontrollably into the engine compartment. Please also wear appropriate safety glasses and gloves to protect yourself from injury.

## Step 22:

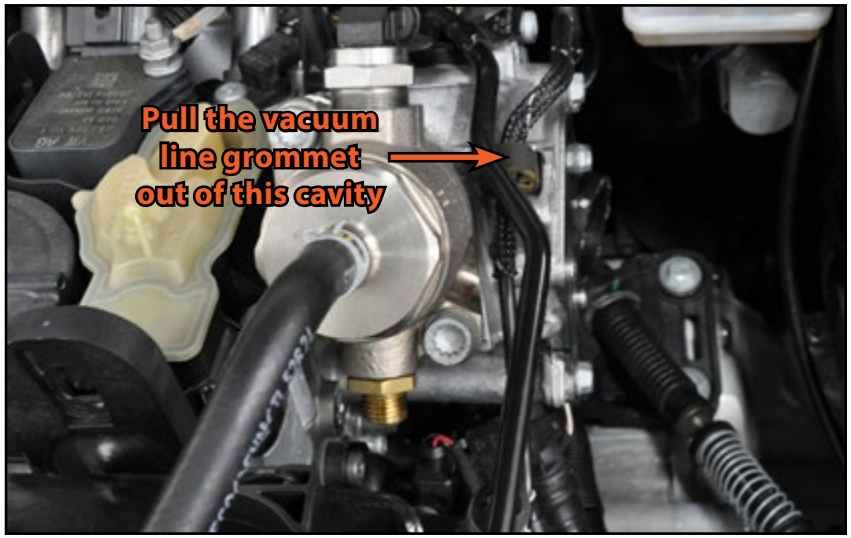
Locate the vacuum line which is located on the back LH corner of the engine near the master cylinder, then gently pull the vacuum line off of the vacuum port as shown in the photo.



# REMOVING THE INTAKE MANIFOLD

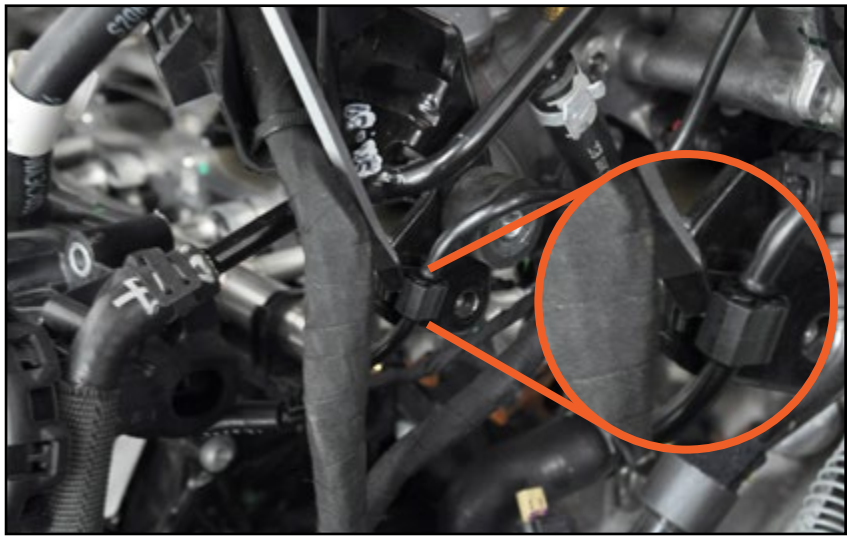
**Step 23:**

Gently pull the vacuum line grommet to the LH side in order to remove it from the cavity in the fuel pump, this will allow the vacuum line to be removed with the intake manifold.




**Step 24:** Flat Blade Screwdriver

Gently release the securing clip for the vacuum line which is located near the charge pipe mounting bolt as shown in the photo.



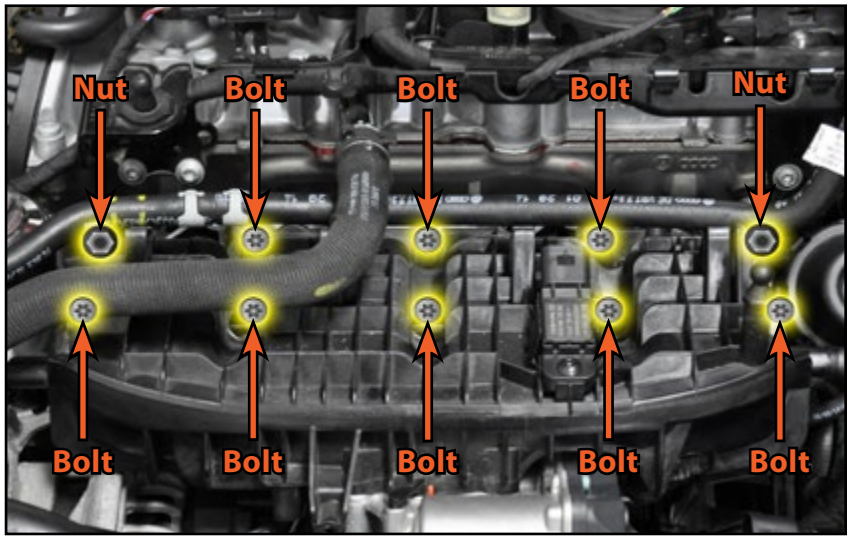
# REMOVING THE INTAKE MANIFOLD

**Step 25:** T30 Torx Socket, Ratchet

Loosen and remove the front screw which secures the wiring harness bracket to the bottom of the intake manifold, we will remove the rear screw when we can better access it by turning the intake manifold.

**Step 26:** T30 Torx Socket, 10mm Socket, Ratchet

Loosen but **DO NOT** remove the eight (8) bolts and the two (2) nuts which secure the intake manifold to the engine, then continue to the next step.



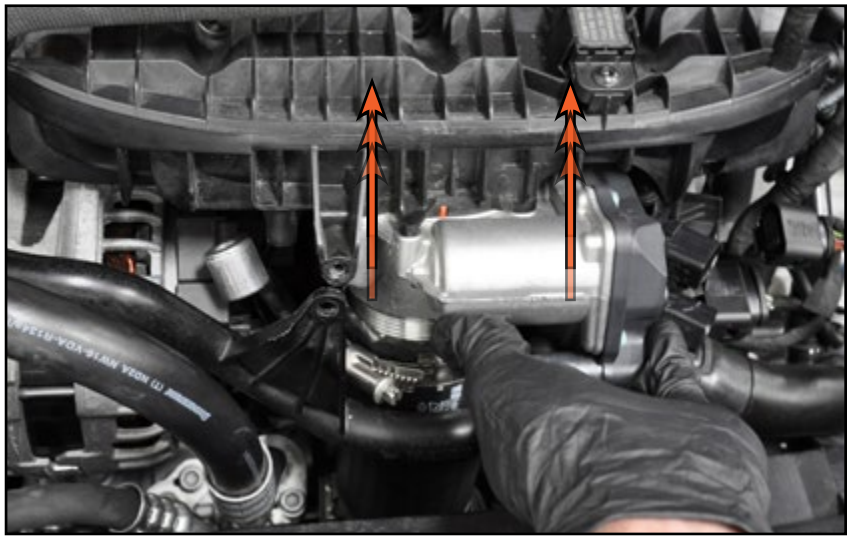
# REMOVING THE INTAKE MANIFOLD

## Step 27: Telescoping Grab Tool - OR - Telescoping Magnet

Once all of the intake manifold the nuts and bolts have been loosened they must be removed. We strongly recommend using a telescoping grab tool or a telescoping magnet in order to retrieve them, if one of these bolts is dropped it can be nearly impossible to find and retrieve.

## Step 28:

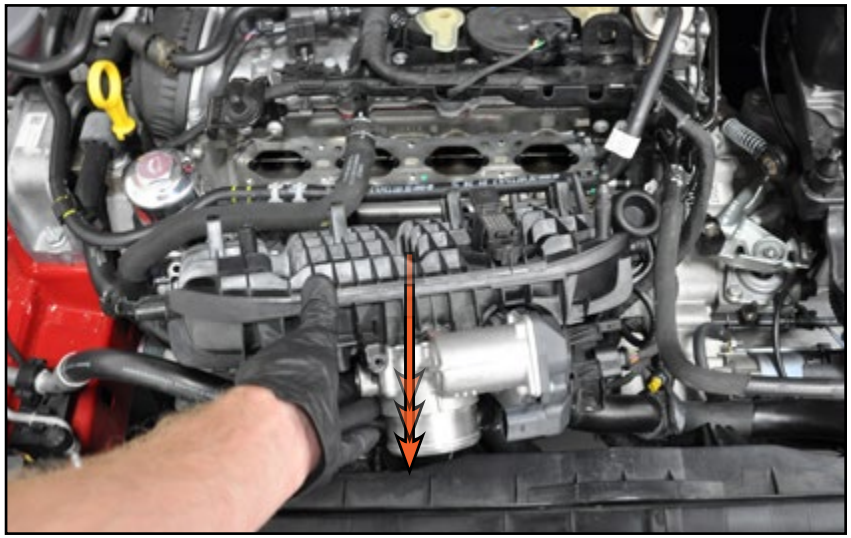
Pull the intake manifold backward so that it comes free from the studs in the top corners. Gently lift the manifold upwards to release the throttle body coupler from the throttle body.



# REMOVING THE INTAKE MANIFOLD

## Step 29:

Gently pull the intake manifold away from the engine until you feel the tension on the wiring harness, then **STOP** pulling and proceed to the next step.



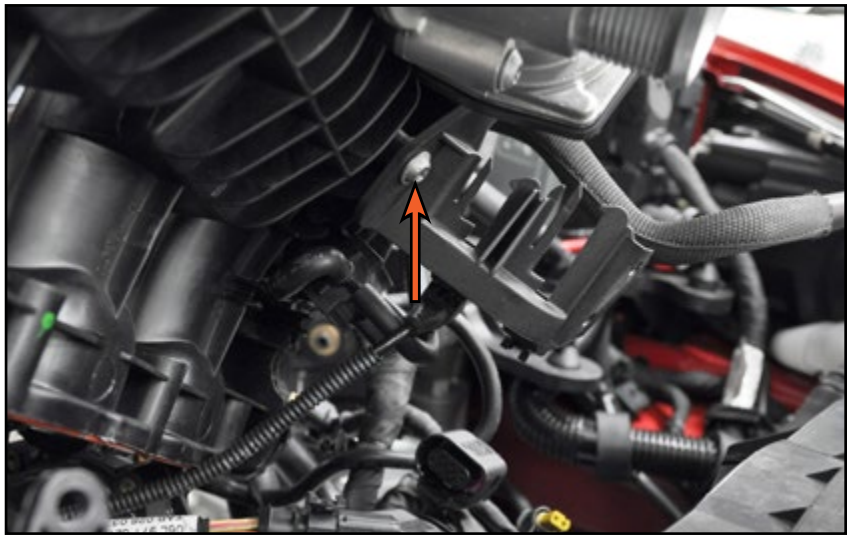
## Step 30:

Rotate the intake manifold upwards as shown in the photo in order to gain access to the wiring harness bracket underneath.

# REMOVING THE INTAKE MANIFOLD

**Step 31:** T30 Torx Socket, Ratchet

Loosen and remove the screw which secures the wiring harness bracket to the bottom of the intake manifold, then lift the manifold up and out of the engine compartment.



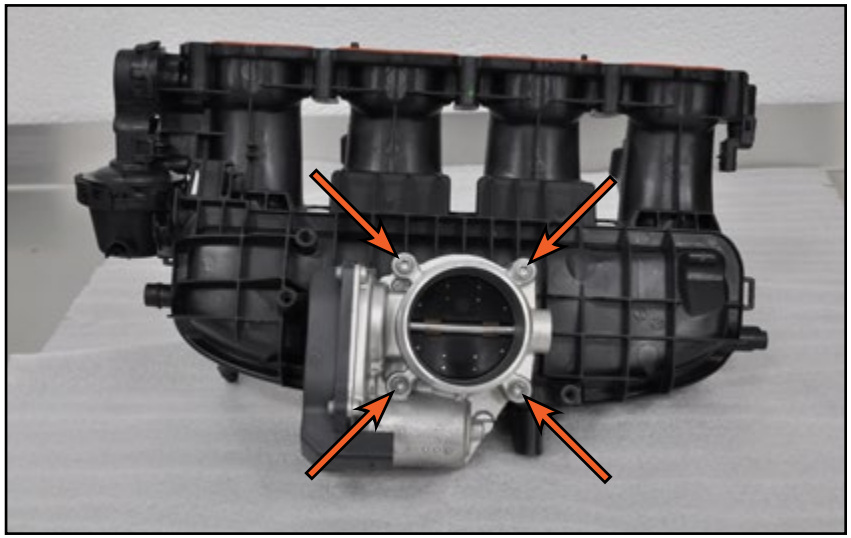
**Step 32:**

Cover the throttle body coupler and the intake ports with clean, lint free towels or wrags to prevent any contaminants from entering them.

# INSTALLING THE THROTTLE BODY BOOST TAP

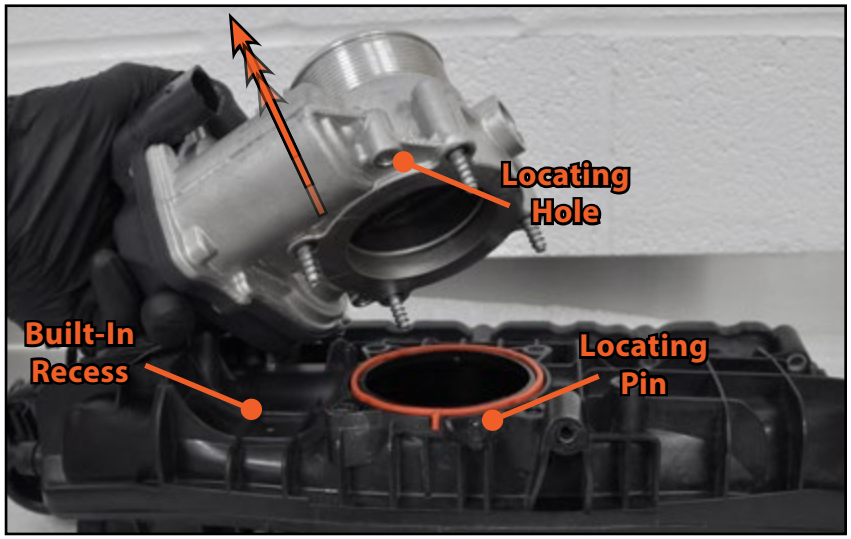
**Step 1:** T30 Torx Socket, Ratchet

Completely loosen the four (4) screws which secure the throttle body to the intake manifold.



**Step 2:**

Remove the throttle body from the intake manifold by lifting it off. Note the locations of the locating pin on the intake manifold, the corresponding locating hole on the throttle body, and the built-in recess in the manifold. All three of these features are used to orient the throttle body on the manifold.

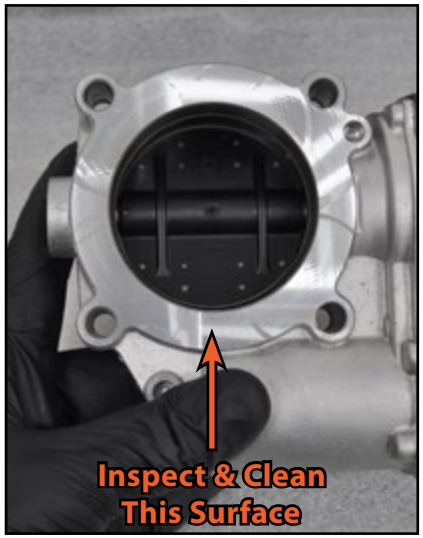


# INSTALLING THE THROTTLE BODY BOOST TAP

## Step 3:

Inspect the gasket surface on the throttle body, make sure the surface is free of corrosion or pitting, then thoroughly clean the surface with Brake Clean or Carb Cleaner and a lint-free towel.

Inspect the throttle body seal for any signs of damage or wear, and replace it if necessary. If replacement is not necessary, wipe the seal clean with a clean, lint-free towel.



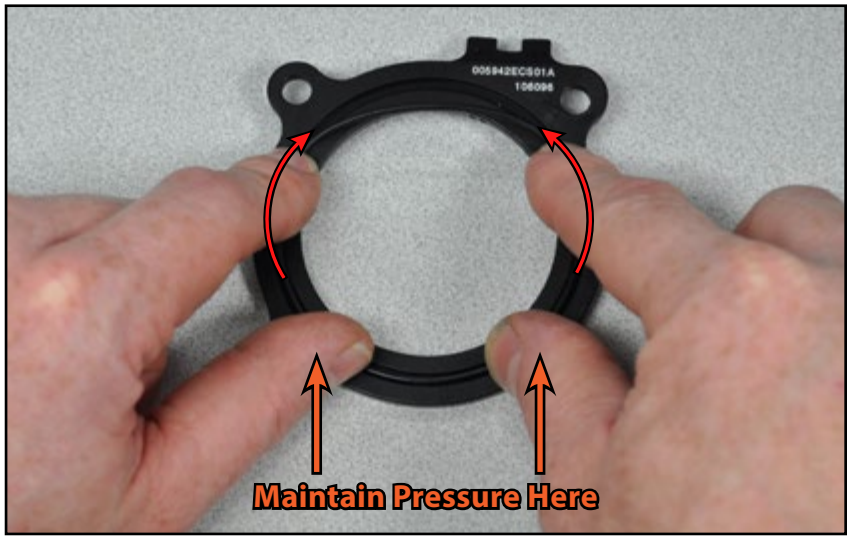


## Step 4:

Apply a very thin coating of grease from the supplied pack to the o-ring groove inside the throttle body boost tap. With the grease applied, apply pressure with two fingers along the bottom side (**ORANGE** arrows), then apply pressure with your thumbs and work your way around the entire o-ring (**RED** arrows), ensuring that it is completely seated all the way around the groove.

**NOTE**

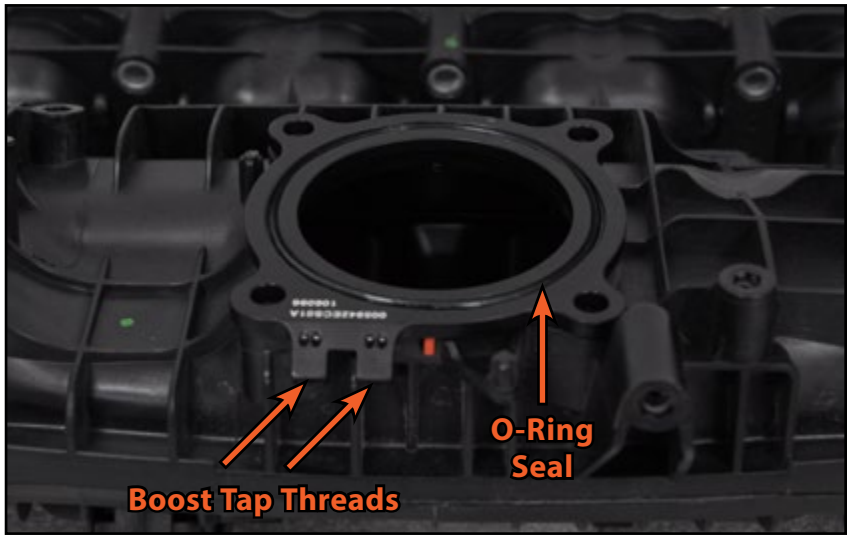
The o-ring is slightly smaller in diameter than the groove in the boost tap, the grease is used to hold the o-ring in place during installation, and will also help the o-ring to obtain a proper seal.



# INSTALLING THE THROTTLE BODY BOOST TAP

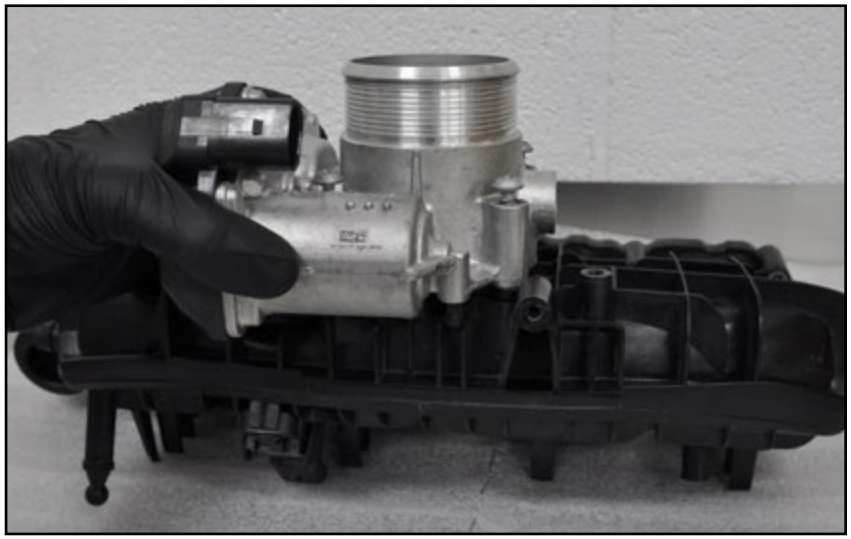
## Step 5:

Lay the throttle body boost tap onto the intake manifold as shown in the photo on the right, ensure that the holes for the boost tap threads are on the side with the cut out in the manifold, and that the o-ring groove is facing upwards.




## Step 6: T30 Torx Socket, Torque Wrench

Place the throttle body on top of the throttle body boost tap, ensuring that it is properly oriented to the intake manifold. Install the throttle body screws and torque them to 7 Nm (5.16 Ft-lbs).



# INSTALLING THE THROTTLE BODY BOOST TAP

## Step 7:

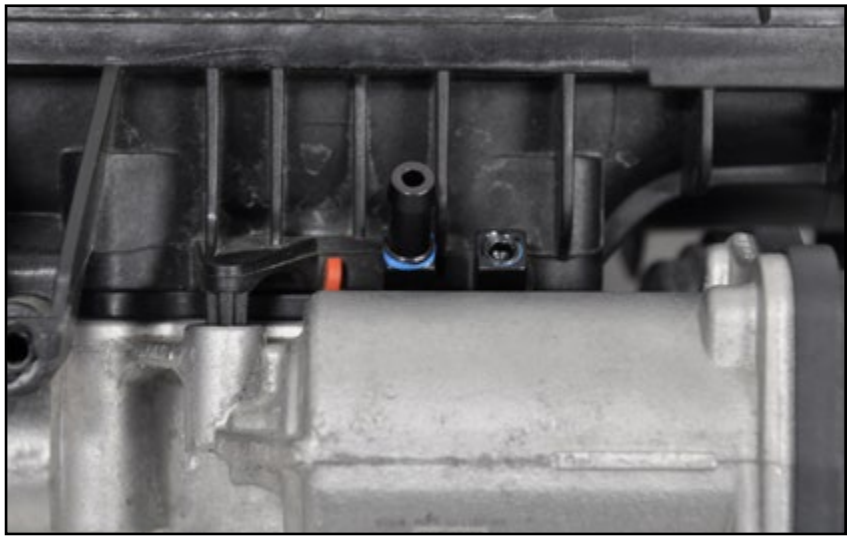
Apply a single drop of the supplied thread locker to the threads of your choice of boost tap nipples or block-off screws (depending on your boost tap needs).

**TECH TIP**

Do not allow the thread locker tube to touch the threads during application, this will cause the thread locker to seal the end of the tube shut. Allow the thread locker to drip as shown in the photos.

## Step 8: 3mm Allen Wrench

Install the boost tap nipples/block-off screws which you applied thread locker onto in step 7 into the boost tap threads, then tighten them until they are snug.



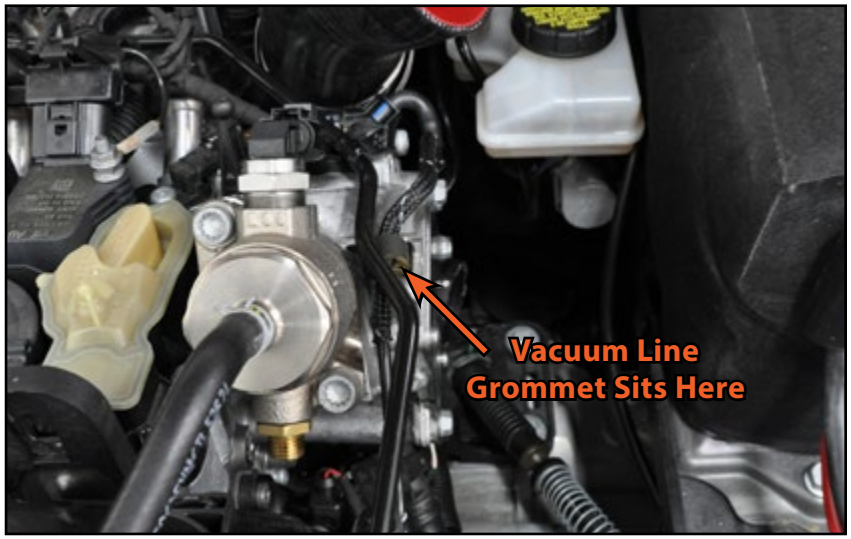
**NOTE**

Block-off screws are installed with a 3mm Allen Wrench, boost tap nipples can simply be installed by hand.

Remove the towels we used to cover the intake ports, then wipe the seals/ gaskets clean and reinstall the intake manifold in the following order:

- [ ] Reconnect the wiring harness bracket to the bottom of the intake manifold
- [ ] Tighten the wiring harness bracket screws until they are snug
- [ ] Slide the intake manifold into place and onto the studs in the cylinder head
- [ ] Insert the throttle body into the throttle body coupler
- [ ] Slide the wiring harness connectors into the wiring harness bracket

Route the vacuum line from the intake manifold ensuring that the rubber grommet is inserted into the cavity as shown in the photo, then reconnect the vacuum line to the vacuum port on the back of the engine near the master cylinder.



# REINSTALLING THE INTAKE MANIFOLD

## Step 3:

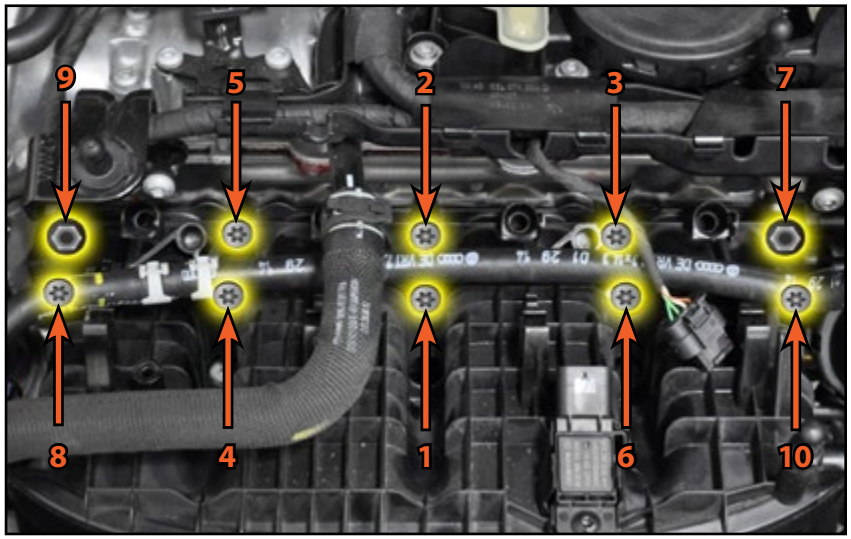
Guide the intake manifold nuts and bolts into place with a telescoping grab tool or telescoping magnet just as we did for removal.

**CAUTION**

DO NOT drop one of these nuts or bolts now, if you do it is extremely likely you will have to remove the intake manifold again in order to locate and retrieve it.

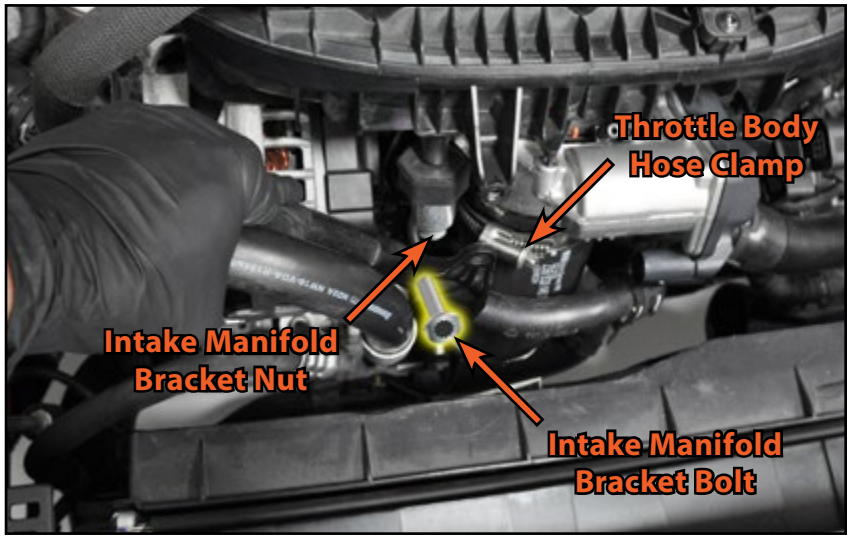
## Step 4: T30 Torx Socket, 10mm Socket, Torque Wrench

Tighten the intake manifold nuts and bolts until they are snug, then torque with to 9 NM (6.64 Ft-lbs) in the order shown in the photo.



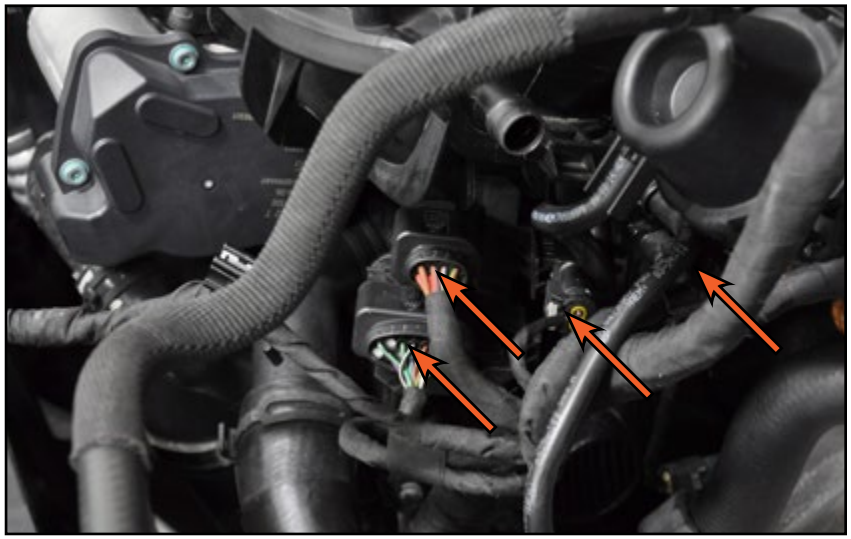
M10 Triple Square Socket, 13mm Socket, Torque Wrench

Reinstall the intake manifold bracket and rubber bushing into place, then torque the bracket bolt to 20 Nm (14.75 Ft-lbs), and the nut to 5 Nm (3.69 Ft-lbs).

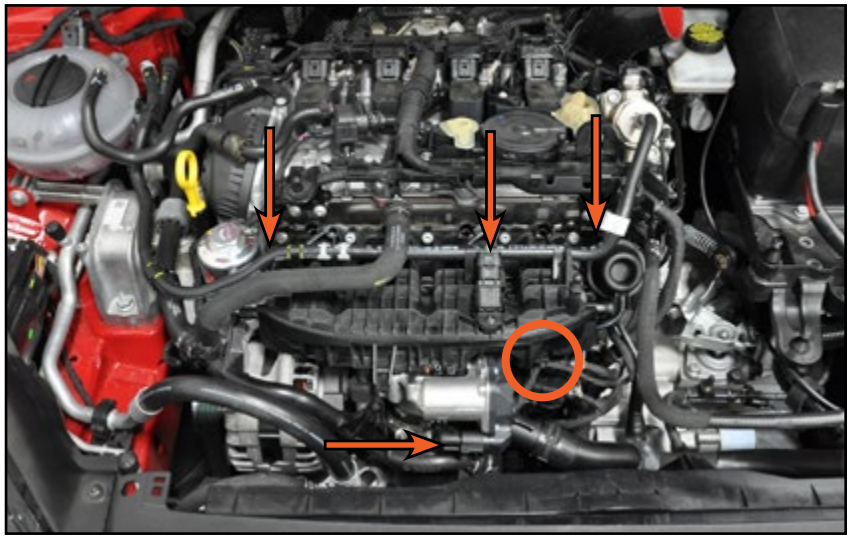



☐ Tighten the throttle body coupler hose clamp until it is snug

Reconnect the four (4) wiring harness connectors which are located underneath the intake manifold and shown in the photo.



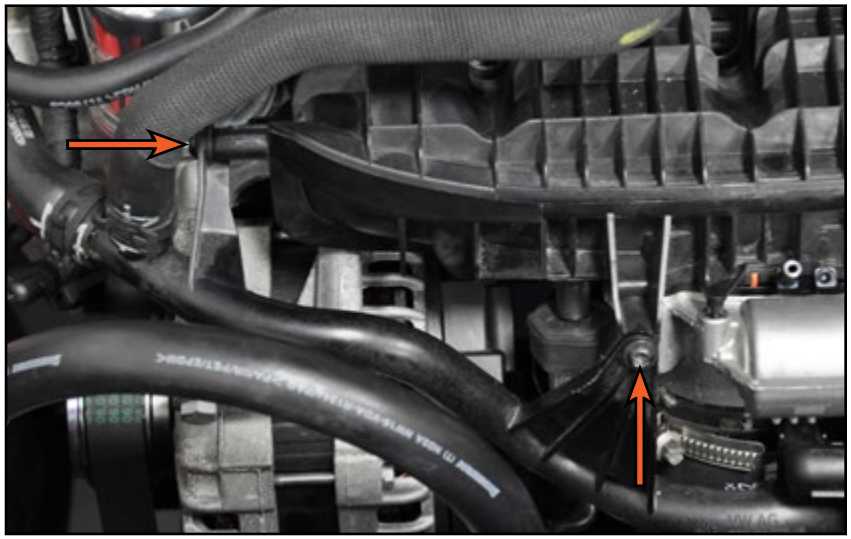
Reconnect the electrical connectors which are located on top of the intake manifold (pointed out with arrows in the photo), then secure the throttle body wiring harness clip to the bottom of the intake manifold (circled in photo).



☐ Secure the coolant hose into the clips along the top of the manifold

T30 Torx Socket, Ratchet

Install the two screws which secure the coolant pipe to the intake manifold, then tighten the screws until they are snug.



# REINSTALLING THE INTAKE MANIFOLD

**Step 9:** 17mm Open End Wrench, T30 Torx Socket, Ratchet

Reinstall the fuel line and tighten the two ends until they are snug. Reinstall the bolt which secures the fuel line bracket to the engine, then tighten it until it is snug.

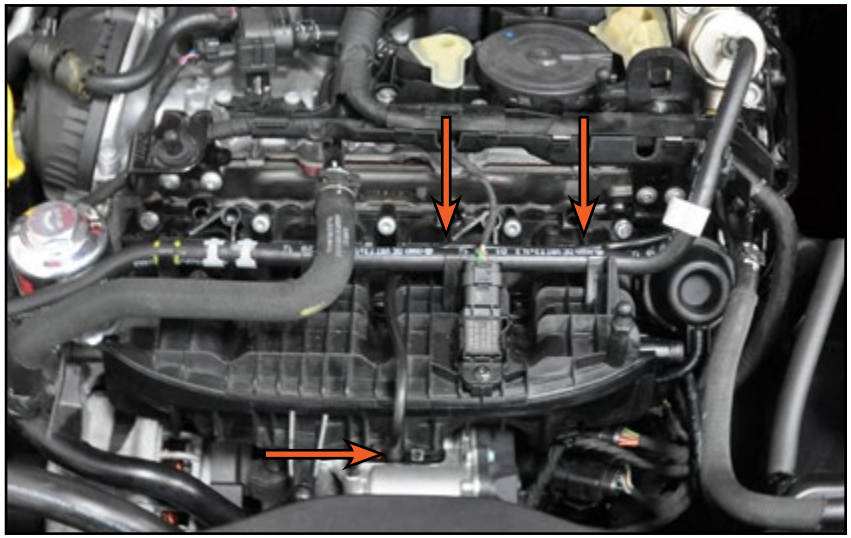
**Step 10:** T30 Torx Socket, Ratchet

Reinstall the bolt which secures the charge pipe to the engine and tighten it until it is snug.

# REINSTALLING THE INTAKE MANIFOLD

## Step 11:

You can now run the new vacuum line from the throttle body boost tap to your desired component. Note the hose routing shown in the photo, there are built in clips in the intake manifold which can be used to secure your new vacuum hose in place.



## Step 12:

Reinstall the induction pipe and the air inlet scoop. Turn the engine on and check for any fuel leaks from the fuel line, remember this is a high pressure fuel system so take the necessary precautions to prevent the risk of injury from spraying fuel. Reinstall the engine cover.


**TECH TIP**

It may be necessary to perform a "Throttle Body Adaptation" with a VAG-COM scanner, though in **MOST** cases this will not be required. Our Schwaben Professional VAG Scan Tool is an easy choice for this task, it is available at www.ecstuning.com as ES#2827082.

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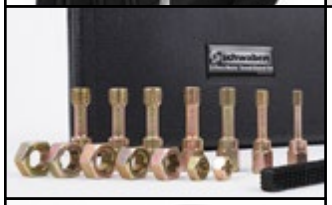







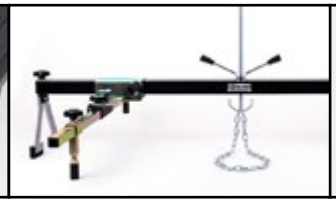


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# Your Volkswagen 1.8T/2.0T Gen3 Throttle Body Boost Tap installation is complete!


## These instructions are provided as a courtesy by ECS Tuning

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